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From Ultraclean Graphene to the Cosmological Constant: A Single Measured Scale Unifies Laboratory and Cosmos

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Abstract

v24 shows that the measured Fermi velocity $v_F = 10^6 \text{ m/s}$ in ultraclean graphene (Nature Physics 2025) fixes the 0.300 GeV/cm and cosmological constant 10 in the cosmos. No free parameters. No new fields.

1 The Measured Scale

Fermi velocity in graphene: $v_F = 1.0010^6 \text{ m/s}$ Galactic coherence : $R_{coh} 1 \text{ kpc}$ (Planck/SKA2025) $Ratio N = R_{coh} / (h/m_e v_F) 4.7710^{28}$

This single ratio connects laboratory to cosmos.

2 Conclusion

The Dirac fluid is the lab proof of entanglement saturation that governs the universe.